

Constant current waterproof driver
PPL Series



Features

- Flicker-free output, which meets the requirement of ErP standard
- High PF, high efficiency, low THD
- SELV and Class II design, suitable for use outside of the light
- Passed CE, ENEC, RCM, UKCA, EL and other certifications
- IP65 protection grade, indoor use is available
- Nominal life-time up to 100,000 h
- 5-year guarantee

Functions

- Support central emergency application (100% output in DC input)
- Support self-contained emergency application
- Protective features (short-circuit, no-load, over temperature protection)

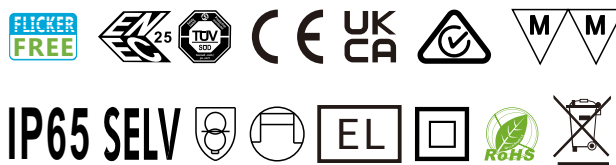
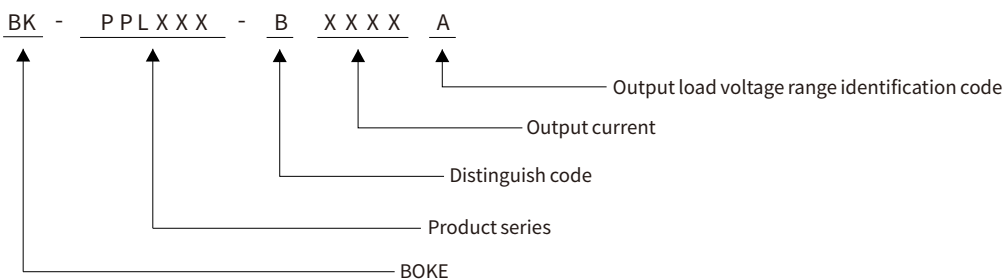
Suitable for lights

- Suitable for lights with indoor or humid environment, such as projection lamps, industrial and mining lamps, floodlights, courtyard lamps, etc
- Suitable for rail transit line lights and other lighting fixtures

Typical applications

- LED Industrial lighting
- LED rail-transit lighting
- LED Subway station lighting

Model coding rules of PPL series



Model list

Model	Input voltage	Output power	Output voltage	Output current	Dimension	Certifications
BK-PPL018-BxxxxA	200-240VAC/DC	18.0W MAX.	28-40/42VDC	0.25-0.45A	L118*W41*H27mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-PPL022-BxxxxA	200-240VAC/DC	22.8W MAX.	28-38/40/42VDC	0.45-0.6A	L118*W41*H27mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-PPL040-BxxxxA	200-240VAC/DC	40.0W MAX.	30-40/42VDC	0.6-1A	L122*W42.5*H32mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-PPL042-CxxxxA	200-240VAC/DC	42.0W MAX.	28-38/40/42VDC	1-1.1A	L122*W42.5*H32mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-PPL050-BxxxxA	200-240VAC/DC	50.4W MAX.	28-40/42VDC	1.05-1.25A	L138*W45*H32mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-PPL060-BxxxxA	200-240VAC/DC	63.0W MAX.	28-38/40/42VDC	1.25-1.65A	L162*W51*H36mm	CE,ENEC,UKCA,RCM,CCC,EL

Technical data

Product model	BK-PPL018-B0400A	BK-PPL018-B0450A	
Output parameters			
Regulation method	Constant Current	Constant Current	
Rated output current range	0.25-0.4A	0.45A	
Rated output voltage range	28-42VDC	28-40VDC	
Rated output power	16.8W Max	18W Max	
Output current adjustment	Fixed output	Fixed output	
Output current ripple LF	±3%	±3%	
Output current accuracy	±5%	±5%	
Linear regulation	±5%	±5%	
Load regulation	±5%	±5%	
No load output voltage	50VDC		
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.239%, Pst LM = 0.000, SVM = 0.004, (The above parameters are obtained from testing the panel lights)		
Input parameters			
Rated input voltage	200-240VAC 200-240VDC		
Input voltage range	180-264VAC 180-264VDC		
Input voltage shock	<380V AC		
Input current	<0.11A (Rated input voltage)		
Input frequency	0/50/60Hz		
Input PF/Input DF	PF:0.96,DF: 0.97 , see the electrical values below for details		
Input THD	10% , see the electrical values below for details		
Efficiency(Max)	86.5% , see the electrical values below for details		
In-rush current	7.97A peak ,282us duration(50 % Ipeak), see the description below for details		
Start/Switchover/Turn off	<0.5s(AC start),<0.5s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)		
Switching cycles	> 50,000 switching cycles		
Power consumption	Full load(Pin):20.8W, No load(Pno): N/A, On stand-by(Psb) :N/A , Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P:3750V AC		
Mains surge capability	L-N:2KV (Performance criterion:A)		
Leakage current	0.6mA (230V AC & Full load)		
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH		
Control interface			
DALI dimming port	N/A		
pushDIM dimming port	N/A		
1-10V 2in1 dimming port	N/A		
Auxiliary power supply	N/A		
Dimming range	N/A		
Dimming drive mode	N/A		
Emergency support			
Central emergency system	Supported(100% output in DC input)		
Self-contained emergency	Supported		
Environment & Life time			
Operating temperature	Ta=-20-60°C		
Case temperature	Tc=90°C		
Operating humidity	5-85% RH, not condensed		
Storage temp./humidity	-40-80°C, 5-85% RH, not condensed		
IP grade	IP65		
MTBF	500,000H,MIL-HDBK-217F(25°C)		
Life-time	Nominal life-time up to 100,000 h, see the description below for details		
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes		
Acoustic Noise	<25dB(30cm, Normal operation)		
Environmental protection	RoHS		
Certifications and standards			
Certification	CE,ENEC,UKCA,RCM,CCC,EL		
Safety	EN61347-1, EN61347-2-13, EN62384		
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		
DALI-2	N/A		
EL	Compatible IEC 61347-2- 13 Annex J , compatible with EN 60598-2-22 and EN 50172		
RF	N/A		

Remarks

- 1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.
- 2.The driver can not be installed inside the light. when the driver is used with the light, the EMC of the whole light needs to be tested.

Technical data

Product model	BK-PPL022-B0500A	BK-PPL022-B0550A	BK-PPL022-B0600A	
Output parameters				
Regulation method	Constant Current	Constant Current	Constant Current	
Rated output current range	0.45-0.5A	0.55A	0.6A	
Rated output voltage range	28-42VDC	28-40VDC	28-38VDC	
Rated output power	21W Max	22W Max	22.8W Max	
Output current adjustment	Fixed output	Fixed output	Fixed output	
Output current ripple LF	±3%	±3%	±3%	
Output current accuracy	±5%	±5%	±5%	
Linear regulation	±5%	±5%	±5%	
Load regulation	±5%	±5%	±5%	
No load output voltage	50VDC			
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.243%, Pst LM = 0.010, SVM = 0.006, (The above parameters are obtained from testing the panel lights)			
Input parameters				
Rated input voltage	200-240VAC 200-240VDC			
Input voltage range	180-264VAC 180-264VDC			
Input voltage shock	<380V AC			
Input current	<0.14A (Rated input voltage)			
Input frequency	0/50/60Hz			
Input PF/Input DF	PF:0.96,DF: 0.97 , see the electrical values below for details			
Input THD	11% , see the electrical values below for details			
Efficiency(Max)	86.5% , see the electrical values below for details			
In-rush current	8.6A peak ,282us duration(50 % Ipeak), see the description below for details			
Start/Switchover/Turn off	<0.5s(AC start),<0.5s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)			
Switching cycles	> 50,000 switching cycles			
Power consumption	Full load(Pin):26.4W, No load(Pno): N/A, On stand-by(Psb) :N/A , Network stand-by(Pnet) : N/A			
Safety				
Withstand voltage	I/P-O/P:3750V AC			
Mains surge capability	L-N:2KV (Performance criterion:A)			
Leakage current	0.6mA (230V AC & Full load)			
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH			
Control interface				
DALI dimming port	N/A			
pushDIM dimming port	N/A			
1-10V 2in1 dimming port	N/A			
Auxiliary power supply	N/A			
Dimming range	N/A			
Dimming drive mode	N/A			
Emergency support				
Central emergency system	Supported(100% output in DC input)			
Self-contained emergency	Supported			
Environment & Life time				
Operating temperature	Ta=-20-60°C			
Case temperature	Tc=90°C			
Operating humidity	5-85% RH, not condensed			
Storage temp./humidity	-40-80°C, 5-85% RH, not condensed			
IP grade	IP65			
MTBF	500,000H,MIL-HDBK-217F(25°C)			
Life-time	Nominal life-time up to 100,000 h, see the description below for details			
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes			
Acoustic Noise	<25dB(30cm, Normal operation)			
Environmental protection	RoHS			
Certifications and standards				
Certification	CE,ENEC,UKCA,RCM,CCC,EL			
Safety	EN61347-1, EN61347-2-13, EN62384			
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547			
DALI-2	N/A			
EL	Compatible IEC 61347-2- 13 Annex J , compatible with EN 60598-2-22 and EN 50172			
RF	N/A			

Remarks

- 1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.
- 2.The driver can not be installed inside the light. when the driver is used with the light, the EMC of the whole light needs to be tested.

Technical data

Product model	BK-PPL040-B0950A	BK-PPL040-B1000A	
Output parameters			
Regulation method	Constant Current	Constant Current	
Rated output current range	0.6-0.95A	1A	
Rated output voltage range	30-42VDC	30-40VDC	
Rated output power	39.9W Max	40W Max	
Output current adjustment	Fixed output	Fixed output	
Output current ripple LF	±3%	±3%	
Output current accuracy	±5%	±5%	
Linear regulation	±5%	±5%	
Load regulation	±5%	±5%	
No load output voltage	50VDC		
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.188%, Pst LM = 0.000, SVM = 0.001, (The above parameters are obtained from testing the panel lights)		
Input parameters			
Rated input voltage	200-240VAC 200-240VDC		
Input voltage range	180-264VAC 180-264VDC		
Input voltage shock	<380V AC		
Input current	<0.24A (Rated input voltage)		
Input frequency	0/50/60Hz		
Input PF/Input DF	PF:0.97,DF: 0.98 , see the electrical values below for details		
Input THD	11% , see the electrical values below for details		
Efficiency(Max)	88% , see the electrical values below for details		
In-rush current	16.05A peak ,246us duration(50 % Ipeak), see the description below for details		
Start/Switchover/Turn off	<0.5s(AC start),<0.5s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)		
Switching cycles	> 50,000 switching cycles		
Power consumption	Full load(Pin):45.5W, No load(Pno): N/A, On stand-by(Psb) :N/A , Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P:3750V AC		
Mains surge capability	L-N:2KV(Performance criterion:A)		
Leakage current	0.6mA (230V AC & Full load)		
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH		
Control interface			
DALI dimming port	N/A		
pushDIM dimming port	N/A		
1-10V 2in1 dimming port	N/A		
Auxiliary power supply	N/A		
Dimming range	N/A		
Dimming drive mode	N/A		
Emergency support			
Central emergency system	Supported(100% output in DC input)		
Self-contained emergency	Supported		
Environment & Life time			
Operating temperature	Ta=-20-60°C		
Case temperature	Tc=90°C		
Operating humidity	5-85% RH, not condensed		
Storage temp./humidity	-40-80°C, 5-85% RH, not condensed		
IP grade	IP65		
MTBF	500,000H,MIL-HDBK-217F(25°C)		
Life-time	Nominal life-time up to 100,000 h, see the description below for details		
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes		
Acoustic Noise	<25dB(30cm, Normal operation)		
Environmental protection	RoHS		
Certifications and standards			
Certification	CE,ENEC,UKCA,RCM,CCC,EL		
Safety	EN61347-1, EN61347-2-13, EN62384		
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		
DALI-2	N/A		
EL	Compatible IEC 61347-2- 13 Annex J , compatible with EN 60598-2-22 and EN 50172		
RF	N/A		

Remarks

- 1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.
- 2.The driver can not be installed inside the light. when the driver is used with the light, the EMC of the whole light needs to be tested.

Technical data

Product model	BK-PPL042-C1000A	BK-PPL042-C1050A	BK-PPL042-C1100A	
Output parameters				
Regulation method	Constant Current	Constant Current	Constant Current	
Rated output current range	0.5-1A	1.05A	1.1A	
Rated output voltage range	28-42V	28-40V	28-38V	
Rated output power	42W Max	42W Max	41.8W Max	
Output current adjustment	Fixed output	Fixed output	Fixed output	
Output current ripple LF	±2%	±2%	±2%	
Output current accuracy	±5%	±5%	±5%	
Linear regulation	±5%	±5%	±5%	
Load regulation	±5%	±5%	±5%	
No load output voltage	54VDC			
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.221%, Pst LM = 0.010, SVM = 0.007, (The above parameters are obtained from testing the panel lights)			
Input parameters				
Rated input voltage	200-240VAC 200-240VDC			
Input voltage range	180-264VAC 180-264VDC			
Input voltage shock	<380V AC			
Input current	<0.24A (Rated input voltage)			
Input frequency	0/50/60Hz			
Input PF/Input DF	PF:0.98,DF:0.98 ,see the electrical values below for details			
Input THD	8% ,see the electrical values below for details			
Efficiency(Max)	93.5% ,see the electrical values below for details			
In-rush current	16A peak ,238us duration(50 % Ipeak), see the description below for details			
Start/Switchover/Turn off	<0.5s(AC start),<0.5s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)			
Switching cycles	> 50,000 switching cycles			
Power consumption	Full load(Pin):45W, No load(Pno): N/A, On stand-by(Psb): N/A, Network stand-by(Pnet) : N/A			
Safety				
Withstand voltage	I/P-O/P:3750V AC			
Mains surge capability	L-N:2KV(Performance criterion:A)			
Leakage current	0.3mA (230V AC & Full load)			
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH			
Control interface				
DALI dimming port	N/A			
pushDIM dimming port	N/A			
1-10V 2in1 dimming port	N/A			
Auxiliary power supply	N/A			
Dimming range	N/A			
Dimming drive mode	N/A			
Emergency support				
Central emergency system	Supported(100% output in DC input)			
Self-contained emergency	Supported			
Environment & Life time				
Operating temperature	Ta=-20-60°C			
Case temperature	Tc=90°C			
Operating humidity	5-85% RH, not condensed			
Storage temp./humidity	-40-80°C, 5-85% RH, not condensed			
IP grade	IP65			
MTBF	500,000H,MIL-HDBK-217F(25°C)			
Life-time	Nominal life-time up to 100,000 h, see the description below for details			
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes			
Acoustic Noise	<25dB(30cm, Normal operation)			
Environmental protection	RoHS			
Certifications and standards				
Certification	CE,ENEC,UKCA,RCM,CCC,EL			
Safety	EN61347-1, EN61347-2-13, EN62384			
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547			
DALI-2	N/A			
EL	Compatible IEC 61347-2- 13 Annex J , compatible with EN 60598-2-22 and EN 50172			
RF	N/A			

Remarks

- 1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.
- 2.The driver can not be installed inside the light. when the driver is used with the light, the EMC of the whole light needs to be tested.

Technical data

Product model	BK-PPL050-B1200A	BK-PPL050-B1250A	
Output parameters			
Regulation method	Constant Current	Constant Current	
Rated output current range	1.05-1.2A	1.25A	
Rated output voltage range	28-42VDC	28-40VDC	
Rated output power	50.4W Max	50W Max	
Output current adjustment	Fixed output	Fixed output	
Output current ripple LF	±3%	±3%	
Output current accuracy	±5%	±5%	
Linear regulation	±5%	±5%	
Load regulation	±5%	±5%	
No load output voltage	50VDC		
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.267%, Pst LM = 0.018, SVM = 0.007, (The above parameters are obtained from testing the panel lights)		
Input parameters			
Rated input voltage	200-240VAC 200-240VDC		
Input voltage range	180-264VAC 180-264VDC		
Input voltage shock	<380V AC		
Input current	<0.29A (Rated input voltage)		
Input frequency	0/50/60Hz		
Input PF/Input DF	PF:0.97,DF: 0.97 , see the electrical values below for details		
Input THD	9% , see the electrical values below for details		
Efficiency(Max)	88.5% , see the electrical values below for details		
In-rush current	18.4A peak ,302us duration(50 % Ipeak), see the description below for details		
Start/Switchover/Turn off	<0.5s(AC start),<0.5s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)		
Switching cycles	> 50,000 switching cycles		
Power consumption	Full load(Pin):56.9W, No load(Pno): N/A, On stand-by(Psb) :N/A , Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P:3750V AC		
Mains surge capability	L-N:2KV(Performance criterion:A)		
Leakage current	0.3mA (230V AC & Full load)		
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH		
Control interface			
DALI dimming port	N/A		
pushDIM dimming port	N/A		
1-10V 2in1 dimming port	N/A		
Auxiliary power supply	N/A		
Dimming range	N/A		
Dimming drive mode	N/A		
Emergency support			
Central emergency system	Supported(100% output in DC input)		
Self-contained emergency	Supported		
Environment & Life time			
Operating temperature	Ta=-20-60°C		
Case temperature	Tc=90°C		
Operating humidity	5-85% RH, not condensed		
Storage temp./humidity	-40-80°C, 5-85% RH, not condensed		
IP grade	IP65		
MTBF	500,000H,MIL-HDBK-217F(25°C)		
Life-time	Nominal life-time up to 100,000 h, see the description below for details		
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes		
Acoustic Noise	<25dB(30cm, Normal operation)		
Environmental protection	RoHS		
Certifications and standards			
Certification	CE,ENEC,UKCA,RCM,CCC,EL		
Safety	EN61347-1, EN61347-2-13, EN62384		
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		
DALI-2	N/A		
EL	Compatible IEC 61347-2- 13 Annex J , compatible with EN 60598-2-22 and EN 50172		
RF	N/A		

Remarks

- 1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.
- 2.The driver can not be installed inside the light. when the driver is used with the light, the EMC of the whole light needs to be tested.

Technical data

Product model	BK-PPL060-B1500A	BK-PPL060-B1550A	BK-PPL060-B1650A	
Output parameters				
Regulation method	Constant Current	Constant Current	Constant Current	
Rated output current range	1.25-1.5A	1.55A	1.6-1.65A	
Rated output voltage range	28-42VDC	28-40VDC	28-38VDC	
Rated output power	63W Max	62W Max	62.7W Max	
Output current adjustment	Fixed output	Fixed output	Fixed output	
Output current ripple LF	±3%	±3%	±3%	
Output current accuracy	±5%	±5%	±5%	
Linear regulation	±5%	±5%	±5%	
Load regulation	±5%	±5%	±5%	
No load output voltage	50VDC			
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.165%, Pst LM = 0.016, SVM = 0.004, (The above parameters are obtained from testing the panel lights)			
Input parameters				
Rated input voltage	200-240VAC 200-240VDC			
Input voltage range	180-264VAC 180-264VDC			
Input voltage shock	<380V AC			
Input current	<0.38A (Rated input voltage)			
Input frequency	0/50/60Hz			
Input PF/Input DF	PF:0.97,DF: 0.98, see the electrical values below for details			
Input THD	8% , see the electrical values below for details			
Efficiency(Max)	89.5% , see the electrical values below for details			
In-rush current	11.8A peak ,358us duration(50 % Ipeak), see the description below for details			
Start/Switchover/Turn off	<0.5s(AC start),<0.5s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)			
Switching cycles	> 50,000 switching cycles			
Power consumption	Full load(Pin):64W, No load(Pno): N/A, On stand-by(Psb) :N/A , Network stand-by(Pnet) : N/A			
Safety				
Withstand voltage	I/P-O/P:3750V AC			
Mains surge capability	L-N:2KV(Performance criterion :A)			
Leakage current	0.3mA (230V AC & Full load)			
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH			
Control interface				
DALI dimming port	N/A			
pushDIM dimming port	N/A			
1-10V 2in1 dimming port	N/A			
Auxiliary power supply	N/A			
Dimming range	N/A			
Dimming drive mode	N/A			
Emergency support				
Central emergency system	Supported(100% output in DC input)			
Self-contained emergency	Supported			
Environment & Life time				
Operating temperature	Ta=-20-60°C			
Case temperature	Tc=90°C			
Operating humidity	5-85% RH, not condensed			
Storage temp./humidity	-40-80°C, 5-85% RH, not condensed			
IP grade	IP65			
MTBF	500,000H,MIL-HDBK-217F(25°C)			
Life-time	Nominal life-time up to 100,000 h, see the description below for details			
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes			
Acoustic Noise	<25dB(30cm, Normal operation)			
Environmental protection	RoHS			
Certifications and standards				
Certification	CE,ENEC,UKCA,RCM,CCC,EL			
Safety	EN61347-1, EN61347-2-13, EN62384			
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547			
DALI-2	N/A			
EL	Compatible IEC 61347-2- 13 Annex J , compatible with EN 60598-2-22 and EN 50172			
RF	N/A			

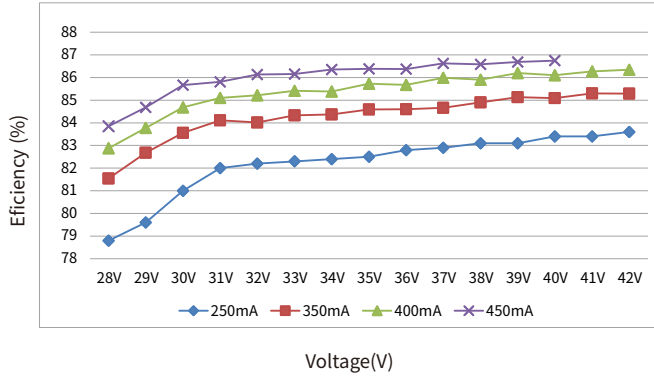
Remarks

- 1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.
- 2.The driver can not be installed inside the light. when the driver is used with the light, the EMC of the whole light needs to be tested.

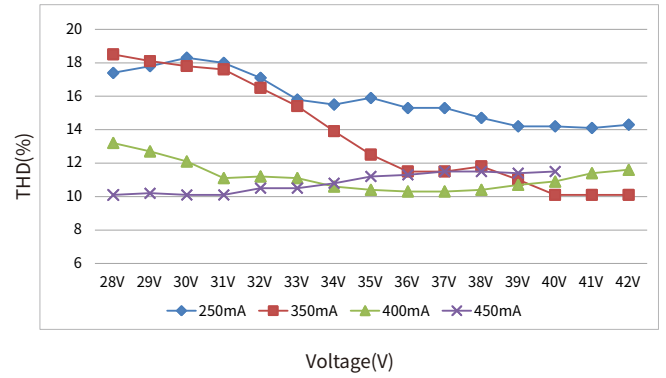
Electrical values

BK-PPL018-BxxxxA

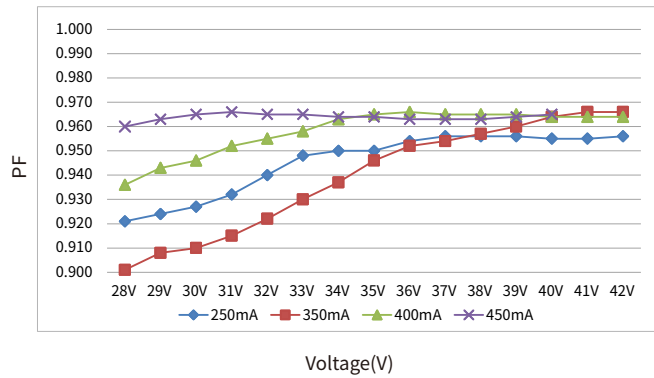
Efficiency vs voltage



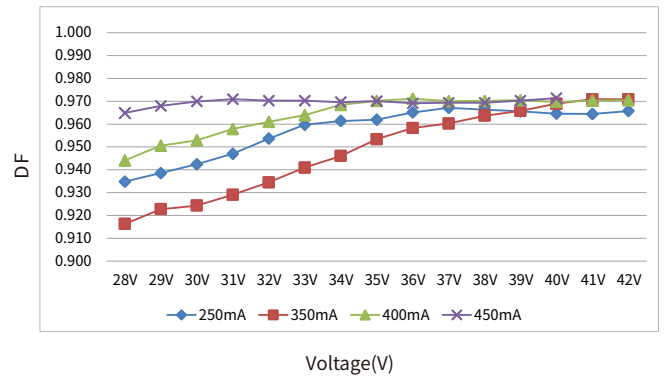
THD vs. voltage



Power factor vs. voltage

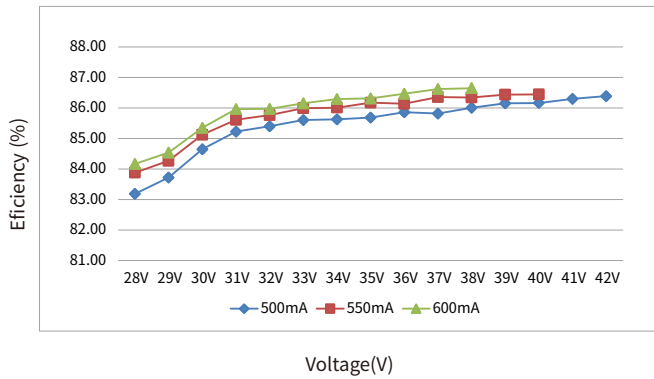


Displacement factor vs. voltage

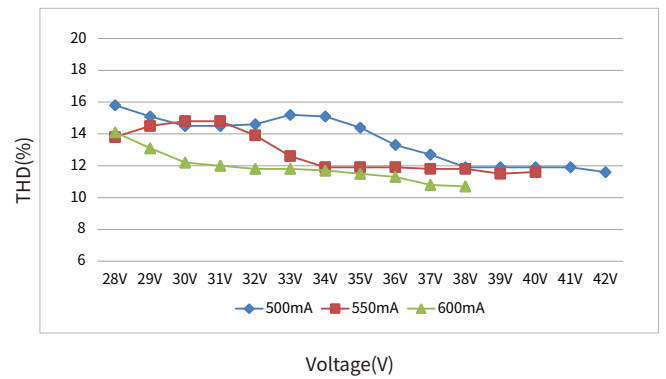


BK-PPL022-BxxxxA

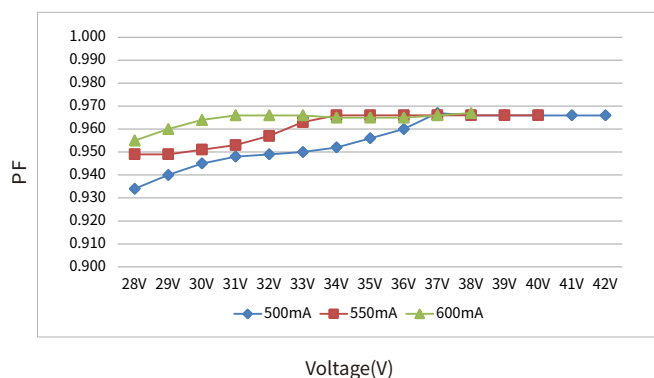
Efficiency vs voltage



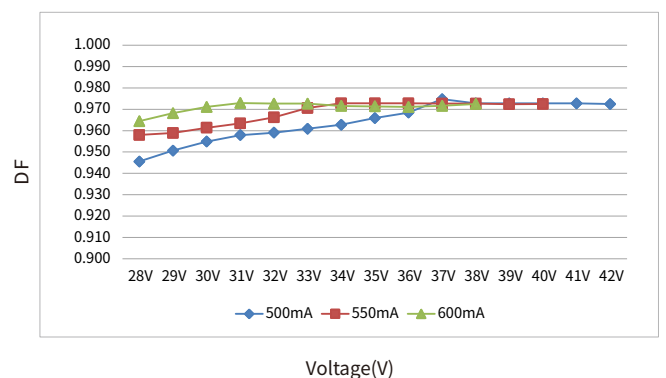
THD vs. voltage



Power factor vs. voltage



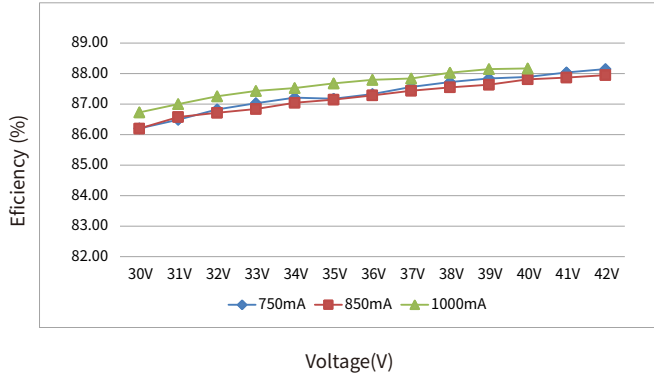
Displacement factor vs. voltage



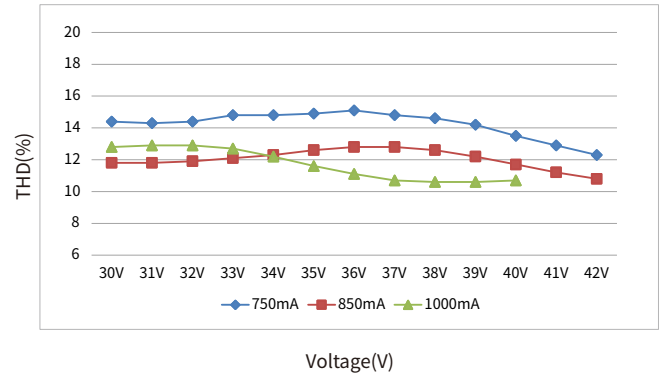
Electrical values

BK-PPL040-BxxxxA

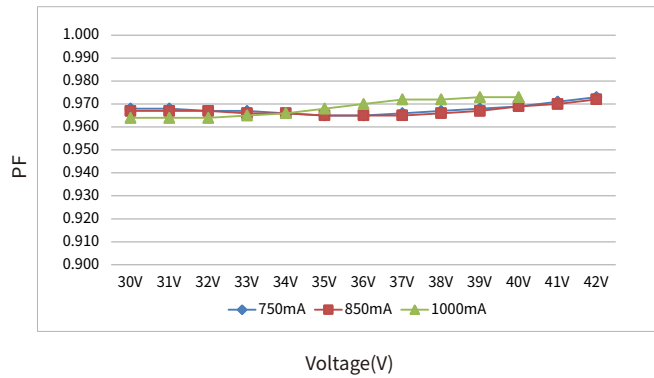
Efficiency vs voltage



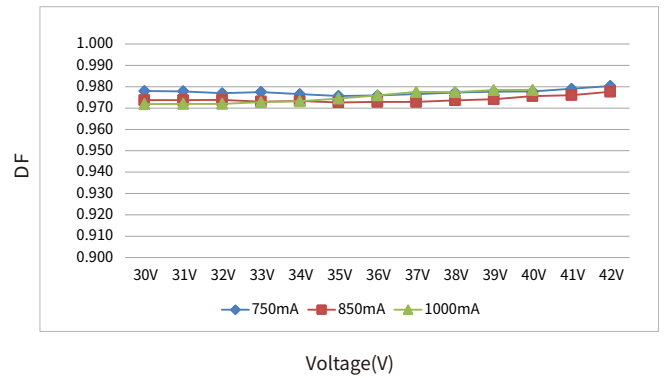
THD vs. voltage



Power factor vs. voltage

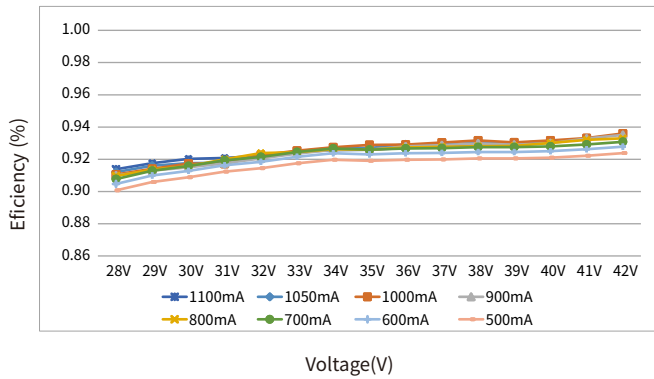


Displacement factor vs. voltage

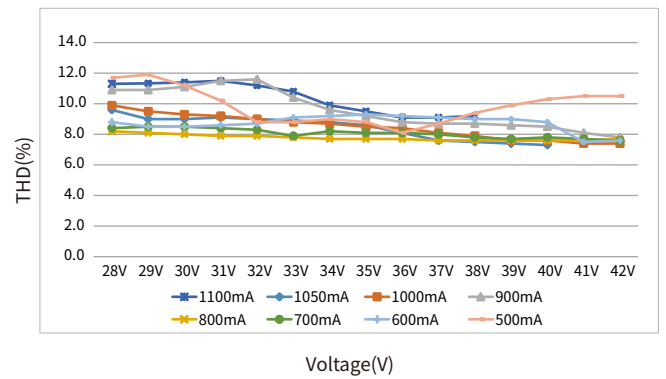


BK-PPL042-CxxxxA

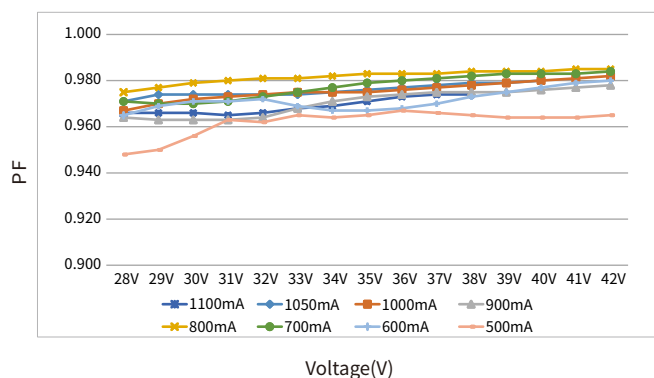
Efficiency vs voltage



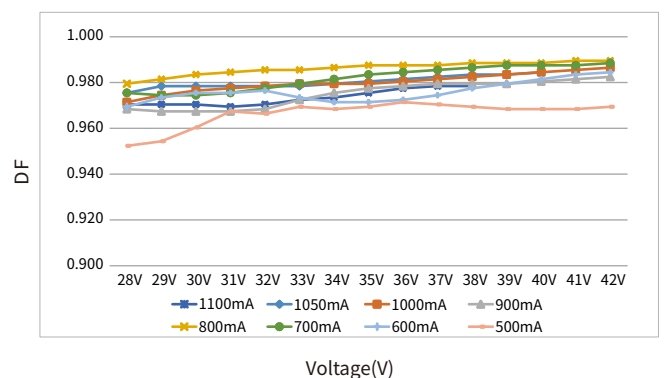
THD vs. voltage



Power factor vs. voltage



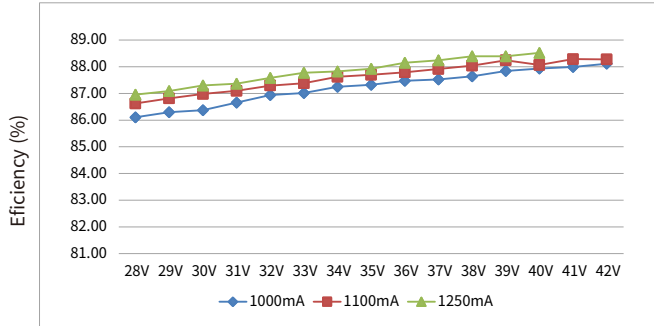
Displacement factor vs. voltage



Electrical values

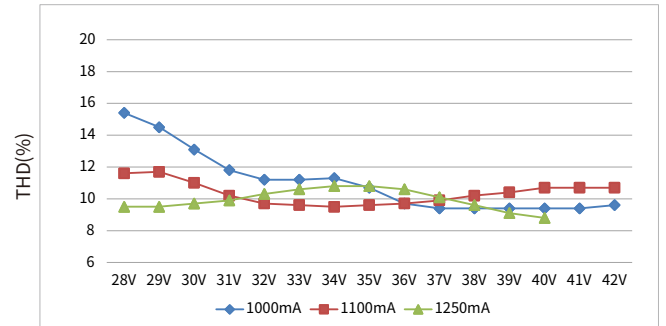
BK-PPL050-BxxxxA

Efficiency vs voltage



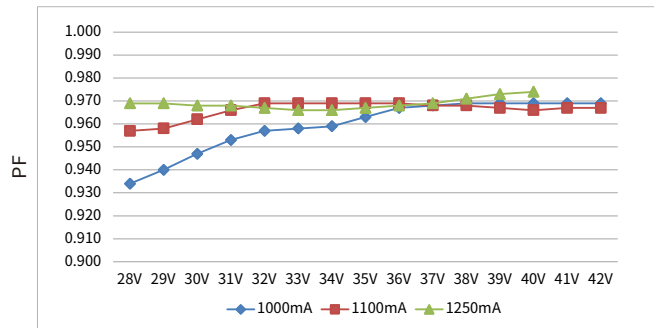
Voltage(V)

THD vs. voltage



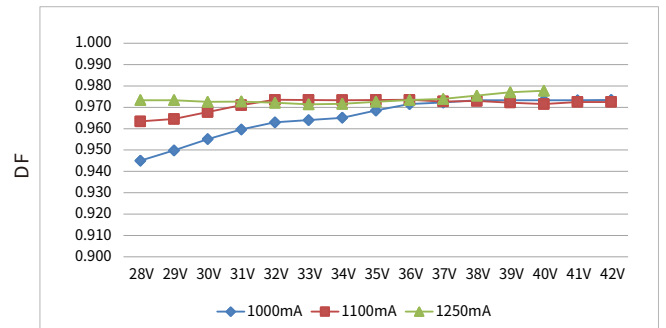
Voltage(V)

Power factor vs. voltage



Voltage(V)

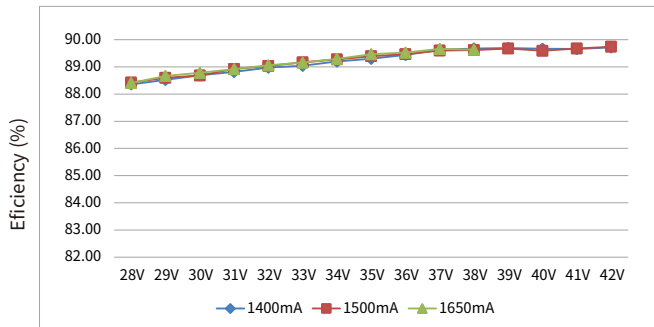
Displacement factor vs. voltage



Voltage(V)

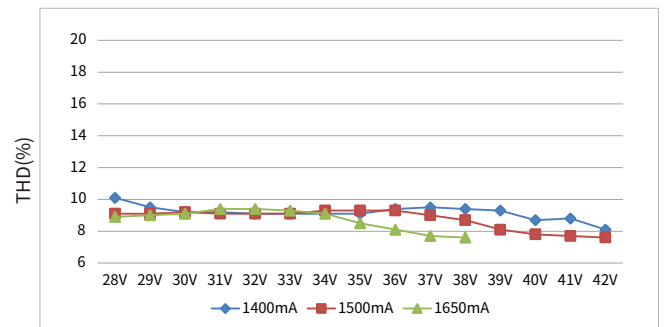
BK-PPL060-BxxxxA

Efficiency vs voltage



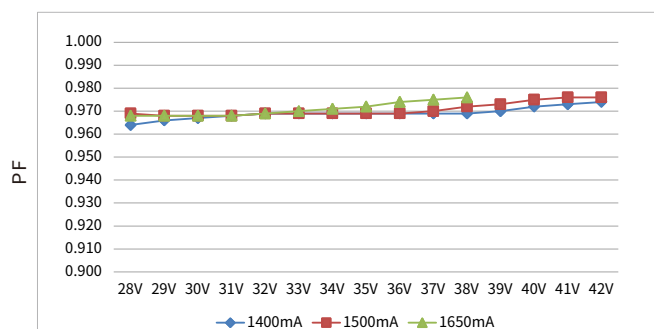
Voltage(V)

THD vs. voltage



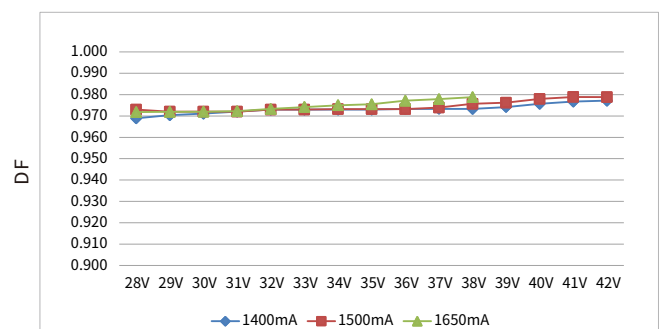
Voltage(V)

Power factor vs. voltage



Voltage(V)

Displacement factor vs. voltage

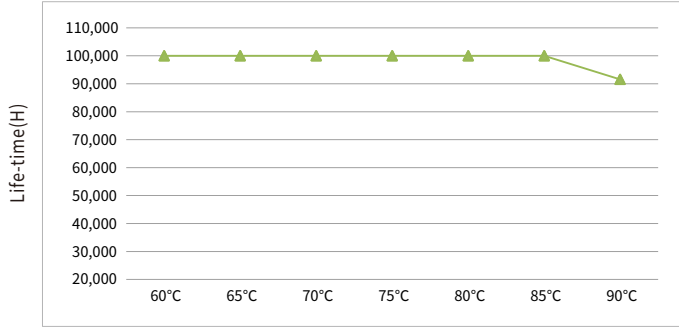


Voltage(V)

Expected life-time

BK-PPL018-BxxxxA

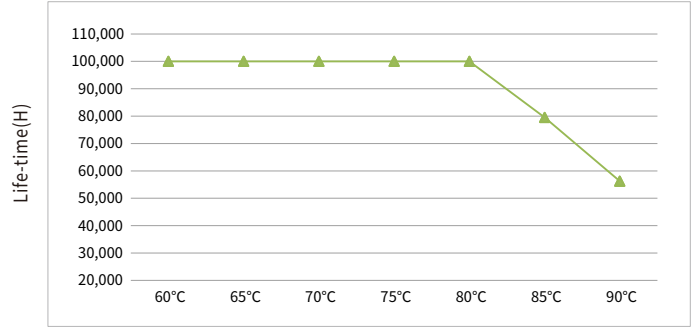
Life-time vs. case temperature



Case temperature(Tc)

BK-PPL022-BxxxxA

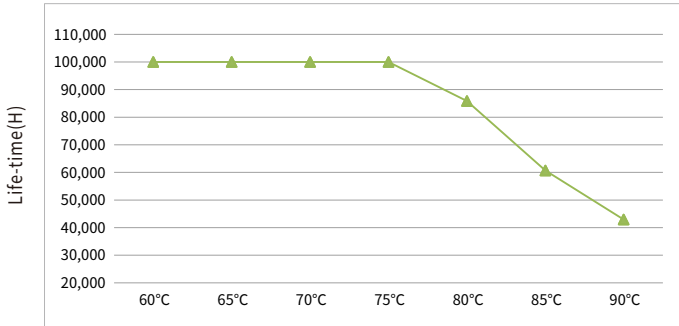
Life-time vs. case temperature



Case temperature(Tc)

BK-PPL040-BxxxxA

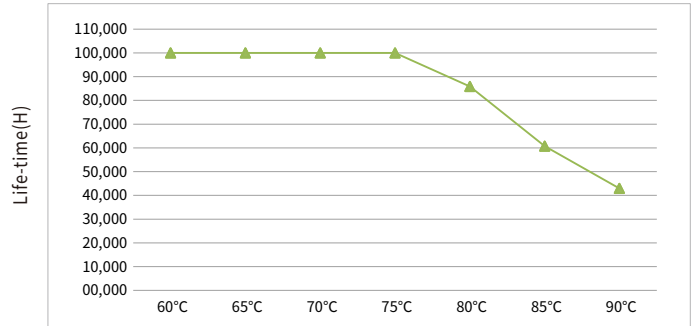
Life-time vs. case temperature



Case temperature(Tc)

BK-PPL042-CxxxxA

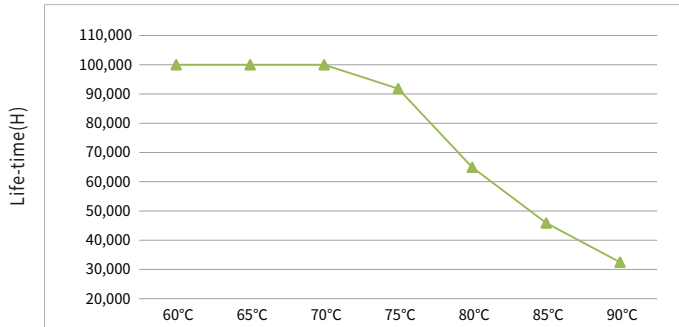
Life-time vs. case temperature



Case temperature(Tc)

BK-PPL050-BxxxxA

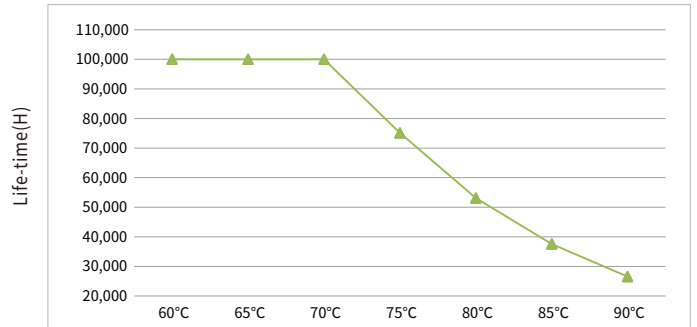
Life-time vs. case temperature



Case temperature(Tc)

BK-PPL060-BxxxxA

Life-time vs. case temperature

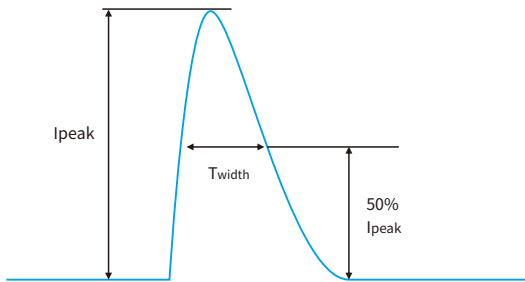


Case temperature(Tc)

- The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).
- The relation of tc to ta temperature depends also on the luminaire design.

Surge

Model	I _{peak}	T _{width}	Condition	Relative number of MCB/pcs														
				B10	B13	B16	B20	B25	C10	C13	C16	C20	C25	D10	D13	D16	D20	D25
BK-PPL018-BxxxxA	7.97A	282us	AC 230V, Full load, Cold start, T _a ≤ 30°C, MCB is not installed side by side	25	33	40	51	63	42	55	67	84	105	73	95	117	146	183
BK-PPL022-BxxxxA	8.6A	282us		23	30	38	47	59	39	51	63	78	98	58	75	92	115	144
BK-PPL040-BxxxxA	16.05A	246us		16	20	55	31	39	26	34	41	52	65	34	44	54	67	84
BK-PPL042-CxxxxA	16A	238us		19	24	30	38	47	31	41	50	63	78	40	52	63	79	99
BK-PPL050-BxxxxA	18.4A	302us		10	13	16	21	26	17	22	27	34	43	27	35	43	53	67
BK-PPL060-BxxxxA	11.8A	358us		13	17	21	27	33	22	28	35	43	54	22	28	35	43	54



Remarks

- The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
- Calculation uses typical values from ABB series S200 as a reference.
- Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.
- If the ambient temperature of the MCB installation exceeds 30°C or multiple MCBs are installed side by side, the number of drives mounted will be reduced and the calculation needs to be recalculated.
- Electrician's usually consider Type B for household lighting and Type C for commercial lighting application.

Functions

Output short-circuit behaviour

- Output short-circuit will not damage the driver.
- After removing the short circuit fault, the driver will automatically resume output.

Output no-load operation

- Output no-load will not damage the driver.
- Please turn off the driver first if you need to connect the LED load.

Output over temperature

- When the working temperature exceeds the over temperature protection point inside the power supply IC, the power supply enters a protection state such as output derating, output hiccup or output shutdown. After the external temperature is normal, restart and resume operation.

Insulation between circuits

Isolation	Input	Output	Case
Input	-	Double	Double
Output	Double	-	Basic
Case	Double	Basic	-

Label

PPL018-B

BOKE Constant Current LED Driver

INPUT MODEL: BK-PPL018-B0450A tc:90°C
ta:60°C **OUTPUT**

○ ACN/DC- (Blue) INPUT:200-240V ≈ 0/50/60Hz 0.11A Max. λ:0.85C-0.95 LED+ (Red)

○ ACL/DC+ (Brown) OUTPUT:28-40V ≈ 450mA 18W Max. 50VDC Max.

For Australia and New Zealand, the marking label with

MADE IN CHINA

For LED Modules use only **IP65 SELV** " " LED- (Black)

PPL022-B

BOKE Constant Current LED Driver

INPUT MODEL: BK-PPL022-B0600A tc:90°C
ta:60°C **OUTPUT**



○ ACN/DC- (Blue) INPUT:200-240V ≈ 0/50/60Hz 0.14A Max. λ:0.85C-0.95 LED+ (Red)

○ ACL/DC+ (Brown) OUTPUT:28-38V ≈ 600mA 22.8W Max. 50VDC Max.

For Australia and New Zealand, the marking label with

MADE IN CHINA

For LED Modules use only **IP65 SELV** " " LED- (Black)

PPL040-B

BOKE Constant Current LED Driver

INPUT MODEL: BK-PPL040-B1000A tc:90°C
ta:60°C **OUTPUT**

○ ACN/DC- (Blue) INPUT:200-240V ≈ 0/50/60Hz 0.24A Max. λ:0.85C-0.95 LED+ (Red)

○ ACL/DC+ (Brown) OUTPUT:30-40V ≈ 1000mA 40W Max. 50VDC Max.

For Australia and New Zealand, the marking label with

MADE IN CHINA

For LED Modules use only **IP65 SELV** " " LED- (Black)

PPL042-C

BOKE Constant Current LED Driver

INPUT MODEL: BK-PPL042-C1100A tc:90°C
ta:60°C **OUTPUT**

○ ACN/DC- (Blue) INPUT:200-240V ≈ 0/50/60Hz 0.23A Max. λ:0.95-0.98 LED+ (Red)

○ ACL/DC+ (Brown) OUTPUT:28-38V ≈ 1100mA 41.8W Max. 54VDC Max.

For Australia and New Zealand, the marking label with

MADE IN CHINA

For LED Modules use only **IP65 SELV** " " LED- (Black)

PPL050-B

BOKE Constant Current LED Driver

INPUT MODEL: BK-PPL050-B1250A tc:90°C
ta:60°C **OUTPUT**

○ ACN/DC- (Blue) INPUT:200-240V ≈ 0/50/60Hz 0.29A Max. λ:0.85C-0.95 LED+ (Red)

○ ACL/DC+ (Brown) OUTPUT:28-40V ≈ 1250mA 50W Max. 50VDC Max.

For Australia and New Zealand, the marking label with

MADE IN CHINA

For LED Modules use only **IP65 EL SELV** " " LED- (Black)

PPL060-B

BOKE Constant Current LED Driver

INPUT MODEL: BK-PPL060-B1650A tc:90°C
ta:60°C **OUTPUT**

○ ACN/DC- (Blue) INPUT:200-240V ≈ 0/50/60Hz 0.38A Max. λ:0.85C-0.95 LED+ (Red)

○ ACL/DC+ (Brown) OUTPUT:28-38V ≈ 1650mA 62.7W Max. 50VDC Max.

For Australia and New Zealand, the marking label with

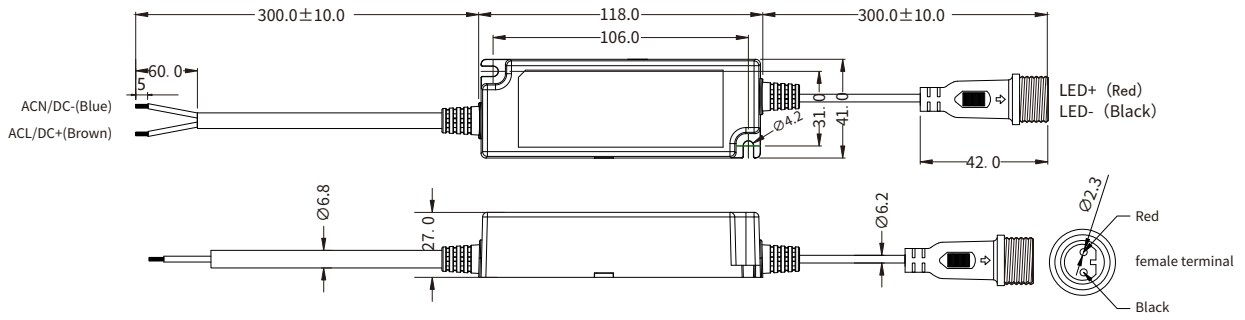
MADE IN CHINA

For LED Modules use only **IP65 SELV** " " LED- (Black)

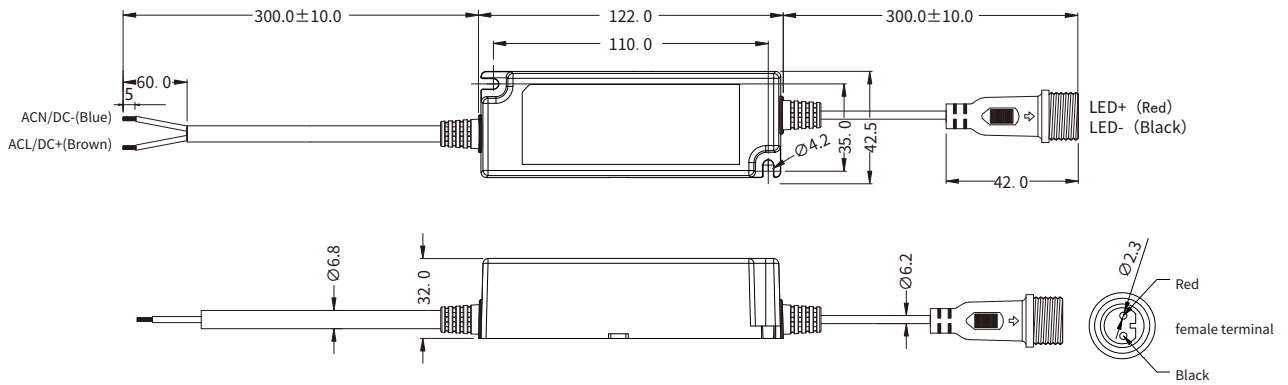
         

Installation

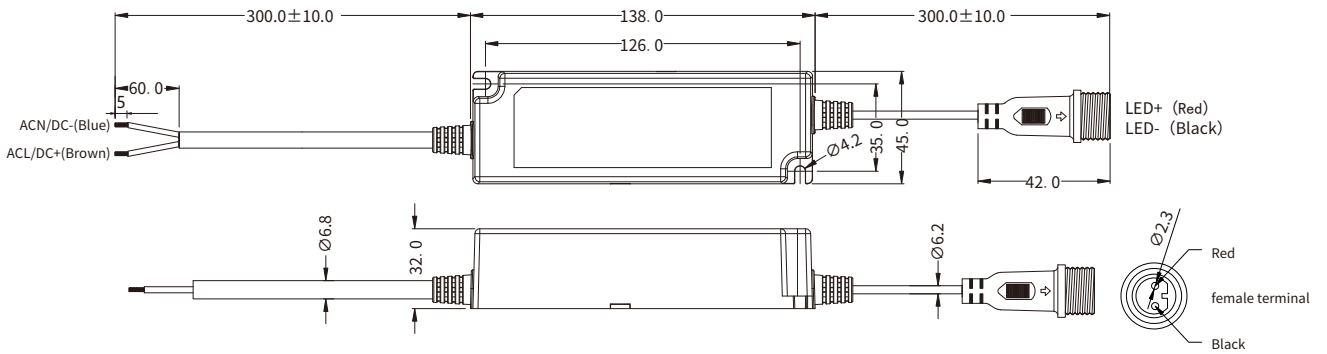
PPL018-B/PPL022-B



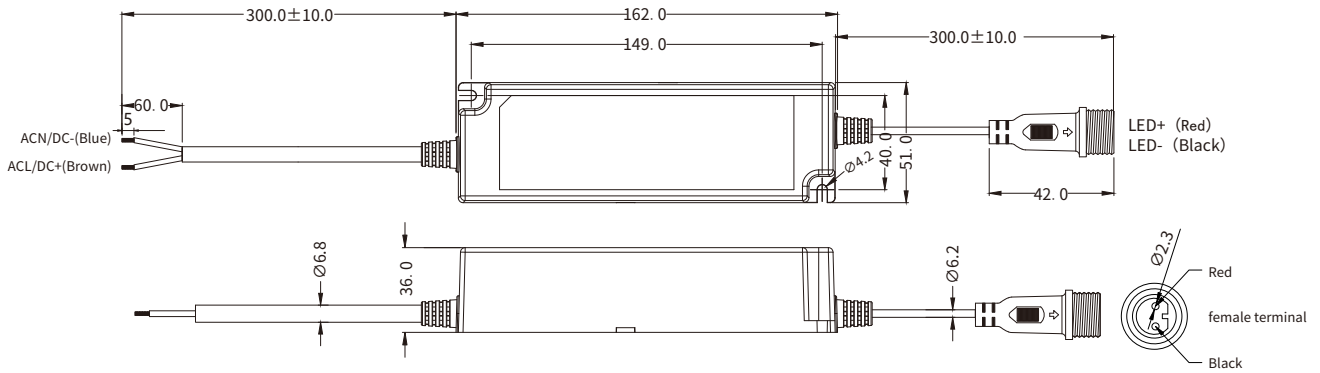
PPL040-B/PPL042-C



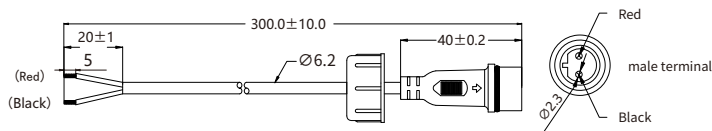
PPL050-B



PPL060-B



male terminal



Installation note

Hot plug-in

- Hot plug-in is not supported due to residual output voltage of > 0 V.

Wiring guidelines

- All connections must be kept as short as possible to ensure good EMI behaviour.
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- Max. length of output wires is 2 m.
- Incorrect wiring can damage LED modules.

Installation requirements

- The driver should be installed in a dry, acid-free, oil-free, fat-free environment.
- The installation ambient temperature of the drive shall not exceed the value of Ta at any time.
- The temperature of the mounting surface of the driver should be lower than 40°C
- The driver should keep a certain distance from the heating stuff (such as the luminaire radiator).
- If the driver is used externally (it needs to be used with the accessories), the installation of the driver should also meet the following conditions:
 - 1.The driver should be a certain distance between the drivers, as shown in Figure 1.
 - 2.The driver keeps a certain distance from surrounding objects, as shown in Figure 2.

Mounting screw specifications and torque

- Max. torque at the clamping screw: 0.5 Nm / M4

Replace LED module

1. Mains off
2. Wait more than 5 seconds
3. Remove LED module
4. Connect LED module again

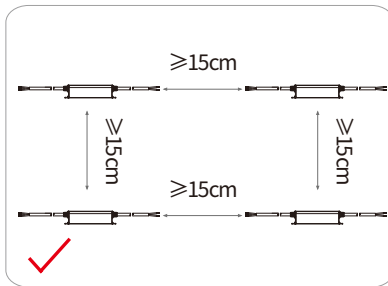
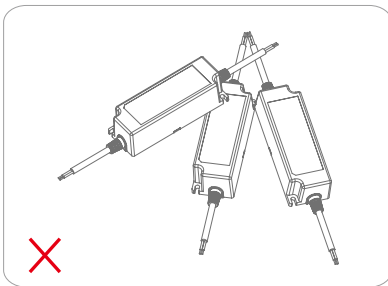


Figure 1

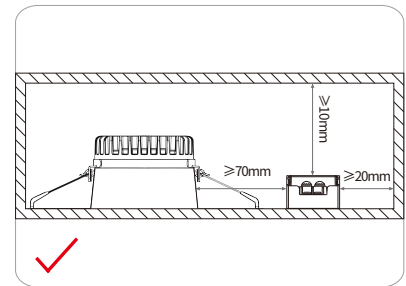
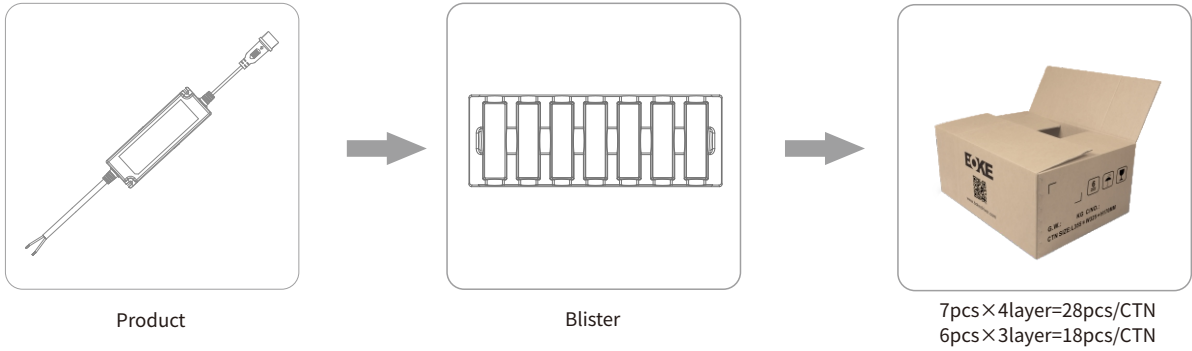


Figure 2

Packaging

Optional 1: factory default



Model	Product size	Weight	Blister size	Carton size	Qty/carton	N.W	G.W
PPL018-B	L118*W41*H27mm	266g	L520*W188*H36mm	L540*W250*H195mm	28pcs	7.45kg	6.88kg
PPL022-B	L118*W41*H27mm	266g	L520*W188*H36mm	L540*W250*H195mm	28pcs	7.45kg	6.88kg
PPL040-B	L122*W42.5*H32mm	277g	L520*W188*H36mm	L540*W250*H195mm	28pcs	7.76kg	8.98kg
PPL042-C	L122*W42.5*H32mm	310g	L520*W188*H36mm	L540*W250*H195mm	28pcs	8.68kg	9.93kg
PPL050-B	L138*W45*H32mm	400g	L520*W295*H62mm	L530*W310*H230mm	18pcs	7.20kg	8.62kg
PPL060-B	L162*W51*H36mm	521g	L520*W295*H62mm	L530*W310*H230mm	18pcs	9.38kg	10.7kg

方式2:



Model	Product size	Weight	Packaging size	Carton size	Qty/carton	N.W	G.W
PPL018-B	L118*W41*H27mm	266g	L220*W65*H65mm	L465*W285*H230mm	24pcs	6.38kg	7.59kg
PPL022-B	L118*W41*H27mm	266g	L220*W65*H65mm	L465*W285*H230mm	24pcs	6.38kg	7.59kg
PPL040-B	L122*W42.5*H32mm	277g	L220*W65*H65mm	L465*W285*H230mm	24pcs	8.70kg	10.0kg
PPL042-C	L122*W42.5*H32mm	310g	L220*W65*H65mm	L465*W285*H230mm	24pcs	7.44kg	9.40kg
PPL050-B	L138*W45*H32mm	400g	L220*W65*H65mm	L465*W285*H230mm	24pcs	9.60kg	10.9kg
PPL060-B	L162*W51*H36mm	521g	L220*W65*H65mm	L465*W285*H230mm	24pcs	12.5kg	13.7kg

Additional information

1. The life and MTBF of the product are for reference only, and do not represent a warranty statement.
2. For more information, please send an email to info@bokedriver.com.